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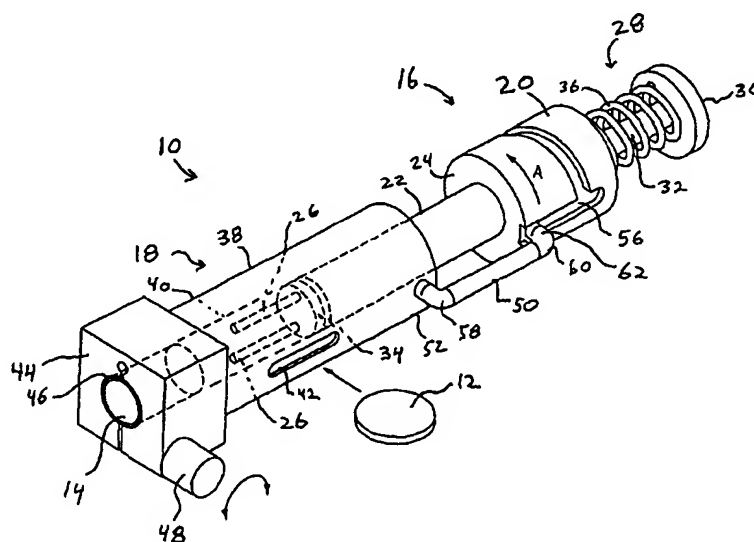
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(54) Title: IMPLANT MANIPULATION AND STORAGE TOOLS



(57) Abstract: There is disclosed a manipulation and storage tool (10) for receiving and manipulating a partially dehydrated intervertebral disk. Manipulation and storage tool (10) is configured to receive the disk (12) and manipulate it into a smaller overall size and subsequently insert it into a temporary storage or sleeve device (14) for later use. Manipulation and storage tool (10) generally includes a manipulation assembly (16) which is movably mounted with respect to a guide assembly (18) includes a throughbore (40) and a slot (42) for receiving the disk (12) into the throughbore (40) as well as a sleeve holder (44) mounted at a distal end designed to retain a storage device or sleeve (14) into which the manipulated disk (12) is inserted. The manipulation assembly includes a drive member (20) and at least one manipulation member.



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

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# INTERNATIONAL SEARCH REPORT

International Application No  
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**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 A61F2/46 A61F2/44

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 A61F A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/123808 A1 (LI LEHMANN K) 5 September 2002 (2002-09-05)	1-5, 8, 10, 11, 13-15
Y	paragraph '0054! - paragraph '0066!; claims 36, 37; figures 1-6	17, 18, 20
X	US 2001/032020 A1 (BESSELINK PETRUS) 18 October 2001 (2001-10-18)	1-5, 9
A	paragraph '0037! - paragraph '0038!; figures 1, 2	37
Y	WO 02/060371 A (HOLLERT ASTRID ; WERTH ULRICH (DE); LAUNICKE KARL-OTTO (DE)) 8 August 2002 (2002-08-08) page 7, line 7 - line 22; figure 3	17, 18, 20
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

11 May 2004

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 03/28878

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 993 459 A (LARSEN SCOTT ET AL) 30 November 1999 (1999-11-30) column 4, line 57 -column 5, line 21; figures 4,19 ---	17,18, 20,41
X	FR 2 808 993 A (CORNEAL IND) 23 November 2001 (2001-11-23) page 5, line 4 -page 7, line 5; figures 1-5 ---	21-29, 42,43
X	US 5 304 182 A (RHEINISH ROBERT S ET AL) 19 April 1994 (1994-04-19)  column 3, line 36 -column 4, line 27; figures 2-6 ---	21-23, 26-29, 42,43
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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 03/28878

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-16 .

A tool suitable for manipulating a flexible intervertebral implant, comprising a guide assembly having a chamber, and a manipulation assembly movably within the chamber and engageable with the flexible intervertebral implant in said chamber to manipulate it into a smaller dimension; and a method of manipulating a flexible intervertebral implant comprising the steps of providing a guide assembly having a chamber, and a manipulation assembly movable within the chamber so to engage the intervertebral implant to alter it in shape.

2. Claims: 17-20

A system for inserting an intervertebral implant into an intervertebral disk space comprising, a guide member having a chamber, a manipulation member movable within the chamber, a storage member, and an insertion tool.

3. Claims: 21-36, 42,43

An intervertebral implant folding apparatus comprising, among others, an intervertebral implant folding device having first and second jaws movably relative to each other, and a method of folding a surgical intervertebral implant comprising, among others, the step of providing a folding apparatus having a pair of jaws movable relative to each other.

4. Claims: 37-40

A surgical instrument for driving a folded intervertebral implant through a tube into a body, comprising a body portion having a fixed and a movable handle, and a pusher ride movable through the body portion due to actuation of the movable handle.

5. Claim : 41

A surgical instrument assembly for insertion of a folded intervertebral implant into a body comprising a transfer tube, a working sleeve and a surgical instrument engageable with the proximal end of the transfer tube.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/28878

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